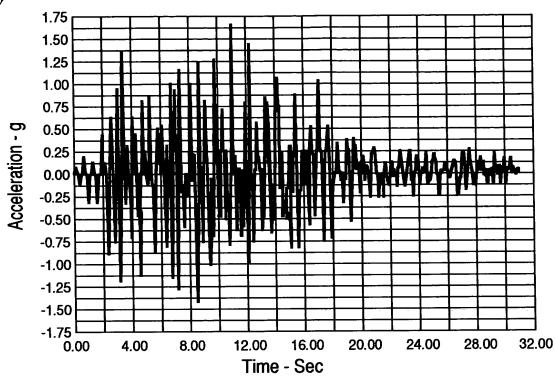
INVENTOR(S): Thomas Stewart

USSN: 09/752,505 Attorney Docket #: CSCO-79621

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Earthquake Synthesized Waveform- VERTEQII

FIG. 1A

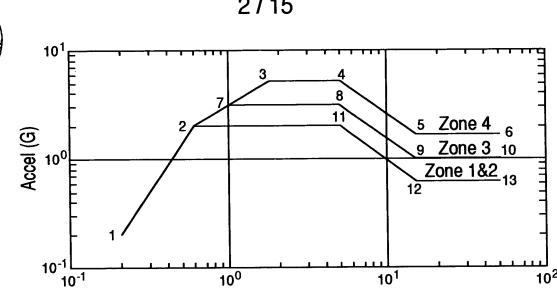
INVENTOR(S): Thomas Stewart

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Coordinate Point	Frequency (Hz)	Values for Upper Floor Acceleration (g)			
Zones 1 and 2					
1	0.3	0.2			
2	0.6	2.0			
11	5.0	2.0			
12	15.0	0.6			
13	50.0	0.6			
Zone 3					
1	0.3	0.2			
2	0.6	2.0			
7	1.0	3.0			
8	5.0	3.0			
9	15.0	1.0			
10	50.0	1.0			
Zone 4					
1	0.3	0.2			
2	0.6	2.0			
3	2.0	5.0			
4	5.0	5.0			
5	15.0	1.6			
6	50.0	1.6			

FIG. 1B

· TITLE: "ELECTRONIC EQUIPMENT SIMULATED EARTHQUAKE SURVIVABILITY TEST SYSTEM AND METHOD"

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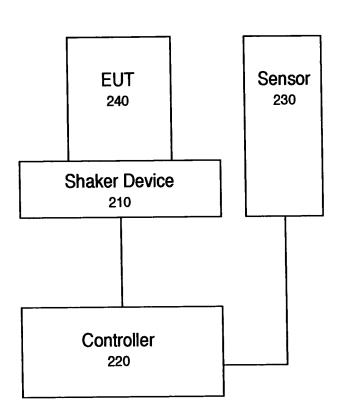


FIG. 2

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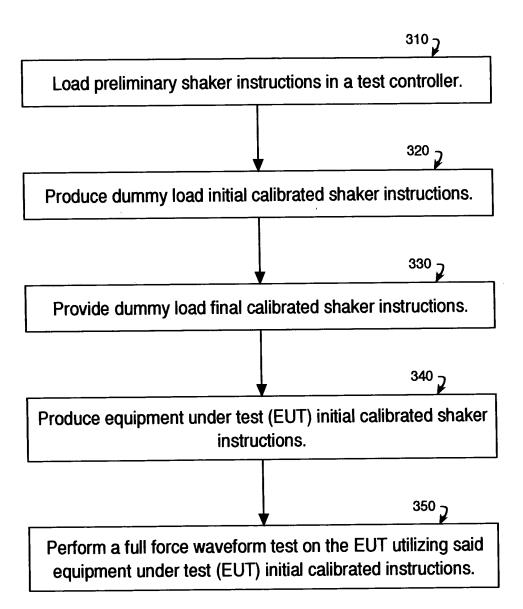


FIG. 3A

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322 ¬ Shake a dummy load at a first attenuated value of the preliminary shaker instructions. 323 Measure the actual acceleration time history movement of the dummy load when shook at the attenuated value of the preliminary shaker instructions. 324 Analyze if a dummy load attenuated test response spectrum (TRS) is projected to be within acceptable range of a required response spectrum (RRS) requirements. 325 Make adjustments in the preliminary shaker instructions to produce the dummy load initial calibrated shaker instructions, the adjustments calculated to bring a dummy load full strength test

response spectrum within acceptable range of the required response spectrum (RRS)

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<u>331</u>

Shake a dummy load at full strength value of the dummy load initial calibrated shaker instructions.

Measure the actual acceleration time history movement of the dummy load when shook at the full strength value of the dummy load initial calibrated shaker instructions.

Determine if the dummy load full strength test response spectrum (TRS) is within an acceptable range of the required response spectrum (RRS).

Make adjustments in the dummy load initial calibrated shaker instructions to produce the dummy load final calibrated shaker instructions, the adjustments calculated to bring a test response spectrum (TRS) within an acceptable range of the required response spectrum (RRS).

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341

Shake equipment under test at a second attenuated value of the dummy load final calibrated shaker instructions.

Measure the actual acceleration time history movement of the equipment under test when shook at the attenuated value of the predetermined waveform.

Determine if the equipment under test attenuated test response spectrum (TRS) is within an acceptable range of the required response spectrum (RRS).

Make adjustments to the dummy load final calibrated shaker instructions to produce the equipment under test attenuated shaker instructions if the dummy load full strength test response spectrum (TRS) is not within an acceptable range of the required response spectrum (RRS).

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<u>351</u>

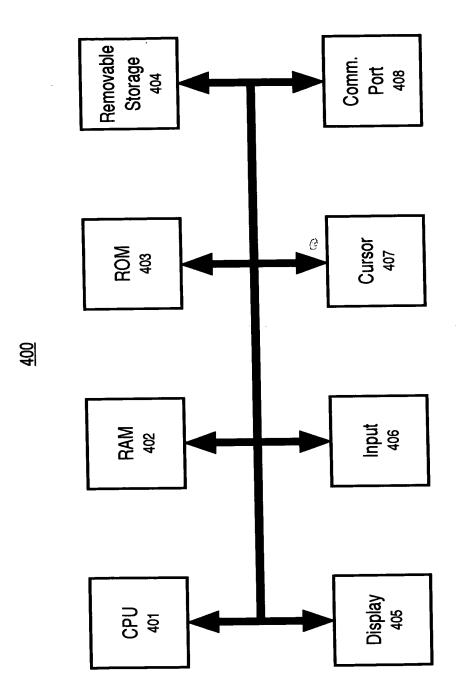
Shake equipment under test at a full strength value of the equipment under test final calibrated shaker instructions.

Measure the actual acceleration time history movement of the equipment under test when shook at the full strength value of the predetermined waveform.

Determine if the test response spectrum (TRS) is within acceptable range of the required response spectrum (RRS).

FIG. 3E





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<u>500</u>

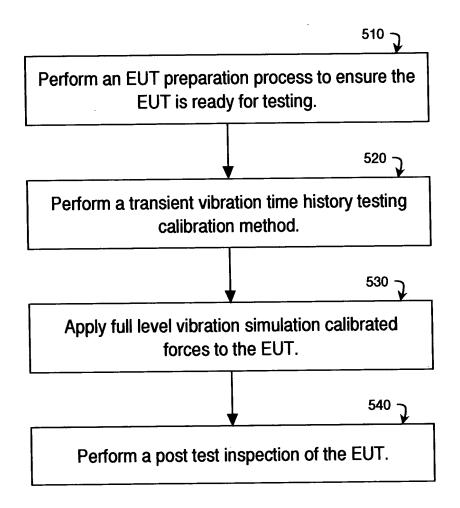


FIG. 5

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<u>600</u>

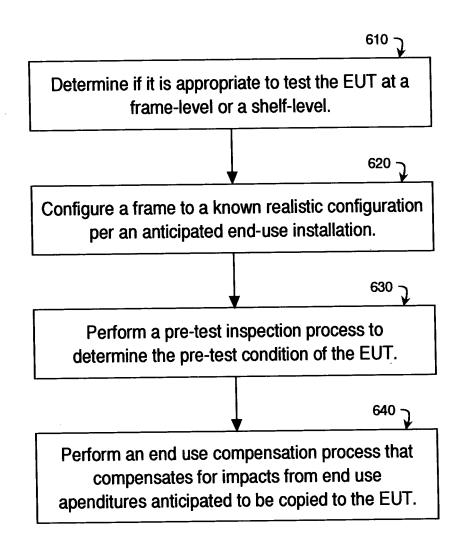


FIG. 6

TITLE: "ELECTRONIC EQUIPMENT SIMULATED EARTHQUAKE SURVIVABILITY TEST SYSTEM AND METHOD" INVENTOR(S): Thomas Stewart USSN: 09/752,505 Attorney Docket #: CSCO-79621

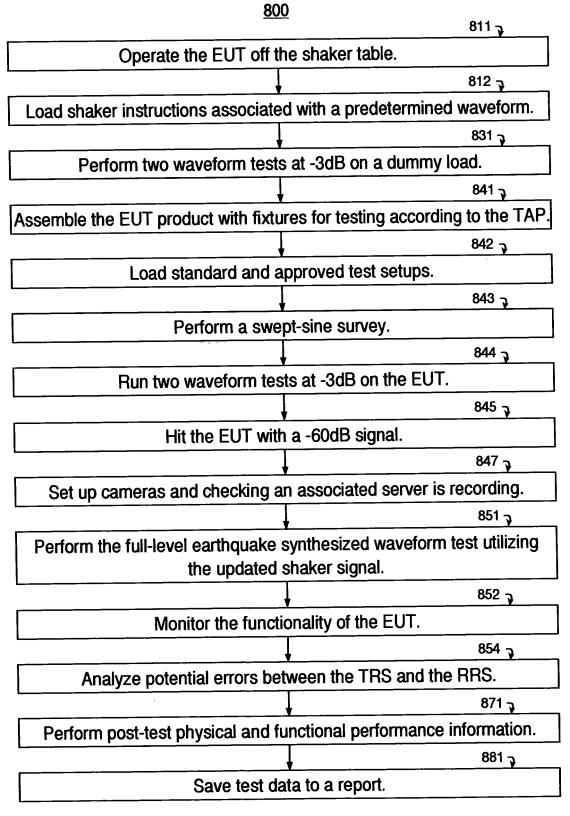




Test	Performance Criteria	Test Tolerance
		TOC 1999 # 2001 OUT
VERTEQII	TRS shall meet or exceed	I TO less litali 50 /0
waveform	RRS	over RRS from 1 to 7 Hz
Acceleration	Synthesized waveform 1.6 G's peak for 30 seconds	Not Applicable
Data sample rate	200 Hz	Not Applicable
Test frame system	49E Ibe (approximately)	%5 -/ +
weight	433 IDS (approximatery)	
Load-cell torque	Up to 65 ft-lbs	+/- 1 ft-lb
Displacement	76.2 mm maximum	#/- 5 mm
(rack top)		







TITLE: "ELECTRONIC EQUIPMENT SIMULATED EARTHQUAKE SURVIVABILITY TEST SYSTEM AND METHOD" INVENTOR(S): Thomas Stewart USSN: '09/752,505 Attorney Docket #: CSCO-79621



Test Parameter	Performance Criteria	Test Tolerance
Frequency Range	1 to 50 Hz	Not Applicable
Sweep Rate	1.0 octave/minute	Not Applicable
Acceleration	0.2 G's +/- 0.02 G's	
Data sample rate	200 Hz	Not Applicable
Test frame system weight	435 lbs (approximately) +/- 5%	

FIG. 9

TITLE: "ELECTRONIC EQUIPMENT SIMULATED EARTHQUAKE SURVIVABILITY TEST SYSTEM AND METHOD"

INVENTOR(S): Thomas Stewart

Attorney Docket #: CSCO-79621 USSN: 09/752,505

Model #	Code Name	Business Unit	BU Contact
:	:	•	:
	Vertical	Front-to-Back	Side-to-Side
Date			
Time			
Test Engineer or Technician			
Frame Top Resonant Frequency (Hz)			
EUT Resonant Frequency (Hz)			
Peak Acceleration Response at the top of the Frame (G)			
Displacement (inches or mm)			
Door, Covers, Panels			
Cracks, Buckles, Visual inspection			
Bolt or Anchor Torque values (ft-lb)(4)	3		
Load Cell Values (lb, all 4)			
LED Status during the Test		,	ļ
Diagnostic or software function during the Test			
Comments			